

ing eleven persons. There was no warning by a gradual rise of the water. Rain commenced about dark and in a few minutes the whole country was said to be covered with water. The flood subsided as fast as it rose. Severe storms and tornadoes reported from Kansas on the 9th and 10th, mentioned in connection with low area No. III. From Carmi, Ill., a cyclone reported on the 10th, lasting about 15 minutes; several persons were badly injured and buildings blown down. Destructive local storms passed over southern parts of Ohio and Indiana and northern Kentucky on the 11th, doing considerable damage to crops. One railway depot demolished and trees uprooted. 24th, Des Moines, Ia., severe, with heavy rain and violent winds; many bridges carried away and great damage done to buildings and crops. Three persons were drowned. 26th, violent storm occurred in Ohio. 28th, a tornado in Baltimore, unroofed about 50 buildings and did considerable damage; no person was killed. 27th, Fort Smith, Ark., from NNW.; worst for 40 years; blew down several houses, damaged others and injured crops.

Waterspouts.—New London, Conn., 19th, moved across mouth of harbor 6 miles from station.

Sand Storm.—Visalia, 16th, severest this year.

VERIFICATIONS.

Indications.—The detailed comparison of the tri-daily weather indications for June with the telegraphic reports for the succeeding twenty-four hours, shows the general percentage of omissions to be 0.8 per cent. and of verifications to be 83.9 per cent. The percentages for the four elements have been, Weather, 87.6; Direction of the Wind, 87.5; Temperature, 81.1; Barometer, 79.1. The percentages of verifications by geographical districts have been: New England, 84.9; Middle States, 86.0; South Atlantic States, 79.8; East Gulf States, 80.4; West Gulf States, 81.1; Lower Lake region, 88.6; Upper Lake region, 86.8; Tennessee and the Ohio valley, 84.9; Upper Mississippi valley, 83.3; Lower Missouri valley, 81.2; Northern Pacific coast region, 88.3; Central Pacific coast region, 93.3; Southern Pacific coast region, 95.0. Of the 3,687 predictions that have been made, 167, or 4.58 per cent, are considered to have entirely failed; 105, or 2.85 per cent, were one-fourth verified; 517, or 14.02 per cent, were one-half verified; 350, or 9.49 per cent, were three-fourths verified; 2,546, or 69.05 per cent, were fully verified, so far as can be judged from the tri-daily weather maps.

Cautionary Signals.—117 Cautionary Signals were displayed during the month, of which 103, or 88 per cent, were justified. 15 Cautionary Off-shore Signals were displayed, which were all justified as to direction; 9, or 60 per cent, were justified as to velocity. Of the Cautionary Off-shore Signals 6 were changed from Cautionary. 132 signals of both kinds were displayed, of which 112, or 84.9 per cent, were fully justified. The above does not include signals ordered at 47 display stations where the velocity is only estimated and not measured. 70 cases were reported of winds of 25 miles or over where signals were not ordered.

NAVIGATION.

Stage of Water in Rivers.—In the table on the right-hand side of chart No. III are given the highest and lowest readings of the Signal Corps river gauges for the month, with the dates. The Red River at Shreveport fell gradually throughout the month from 15 ft. 3 in. on the 1st to 4 ft. 4 in. on the 30th. The Missouri at Yankton continued between 5 ft. 5 in. and 8 ft. 3 in. from the 1st to the 19th, "when the June flood commenced" and the river rose to 12 ft. 6 in. by the 26th; at Omaha and Leavenworth the river fluctuated between 12 and 14 feet from the 1st to about the 16th, when it began rising, and reached its highest point (16 to 17 ft.) on the 27th and 28th. The Observer at Kansas City reports the first headwater rise in the Kansas river on the 15th. The Upper Mississippi, from St. Paul to Keokuk, generally fell, except a slight rise during the last few days at St. Paul; at St. Louis it rose from 13 ft. 3 in. on the 1st to 16 ft. 7 in. on the 9th, continued almost stationary until the 18th, when it began rising, reached 18 ft. 5 in. on the 22d, fell to 17 ft. 5 in. on the 25th, and afterwards rose to its highest point, 20 ft. 11 in., on the 30th; at Cairo it rose from 15 ft. 1 in. on the 1st to 18 ft. 2 in. on the 7th, fell to 16 ft. 7 in. on the 14th, rose to 18 ft. on the 24th, fell to 16 ft. 10 in. on the 26th; at Memphis it rose from 8 ft. 6 in. on the 1st to 13 ft. 4 in. on the 11th, fell to 11 ft. 2 in. on the 23rd, rose to 13 ft. 3 in. on the 26th and fell to 12 ft. 1 in. on the 30th; at Vicksburg it rose from 14 ft. 9 in. on the 4th and 5th to 18 ft. 11 in. on the 16th, fell to 17 ft. 3 in. on the 23rd, and rose to 18 ft. 3 in. by the 30th; at New Orleans the changes were slight throughout the month. The Tennessee at Chattanooga and the Cumberland at Nashville continued low and generally falling throughout month, except temporary rises at former place on the 17th and at the latter on the 16th. The Ohio remained quite low and generally falling throughout month; temporary rises occurred at Pittsburgh on the 6th, 7th and 30th, and at Cincinnati from 10th to 13th. A temporary rise also occurred in the Savannah at Augusta from the 11th to the 13th, otherwise the water remained between 4 and 5 ft. above low water mark. The observer at Fayetteville reports (30th) navigation almost suspended on the Upper Cape Fear river, owing to very low water. The only instance where the water reached the danger point occurred at Omaha from the 25th to the 30th, when the flats were covered and railroad tracks submerged. The low water at Pittsburgh caused a suspension of navigation, except to boats of the lightest draft and the observer reported (30th) about 150 acres of coal in barges lying at that place awaiting a rise.

High Tides.—Cape Lookout, N. C., 4th, 5th.

Low Tides.—Indianola, 16th, 18th.